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PAPERS READ

BEFORE THE

State Medical Society of Arkansas,

—BY—

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—OF—

HOT SPRINGS.



LITTLE ROCK:
MITCHELL & BETTIS, PRINTERS,
1889.

A CASE OF TUBERCULOSIS OF KNEE JOINT WITH PERIARTICULAR ABSCESS.

In the winter of 1888, I was called by Dr. M. G. Thompson to see Mr. Blank. I found him suffering very much with his right knee, which was greatly swollen, the swelling extending up the thigh and down the leg, and from a small opening over the joint puss was exuding. Temperature 102 deg.; some cough. Leg and knee had been poulticed with flax seed meal. The small opening in the joint had been made by some previous medical attendant. The internal condyle of tibia was enlarged and painful; had been so for several years; pain in the joint also all this time. In autumn of 1887, he received a fall. Since that time patient has been worse; pain in the knee more severe.

Diagnosis—Tuberculosis of head of tibia with secondary infection of the joint and periarticular abscess.

The abscess was opened freely and scraped out with a Simon spoon in several places. The patient previously having his leg shaved, scrubbed with soap and water and Bichloride 1-1000, and lastly by sulp. ether. Large rubber drainage tubes, calibre $\frac{1}{4}$ inch were carried down to the bottom of all the recesses of the abscess, cut off even with the skin and transfixated with safety pins. More than a pint of pus was evacuated from the leg and thigh. It had burrowed to the middle of the thigh and also down near the middle of the leg. The drainage tubes I used had been kept constantly in a jar, in 5 per cent. solution of carbolic acid. The leg was now dressed with moist gauze, sublimated into the solution of the sublimate, some tartaric acid having been dissolved to render the bichloride stable. Over the gauze sublimated cotton, and over that more gauze.

During the entire operation, the patient's legs, feet and body were wrapped in antiseptic towels.

The dressings were made abundantly large to absorb the discharges from the large cavities, and were changed once a week. In a few days temperature was normal. Improvement ceasing, it became a question of amputation or resection of the knee. Recent involvement of apex of right lung in the tubercular process rendered an operation imperative. By reason of his emaciated condition, the involvement of the lung and the rapidity with which he could be gotten into the fresh air decided amputation.

After thorough antiseptic precautions as above described, with an Esmarch constrictor applied, amputation was performed at junction of middle with upper third of thigh by Dr. M. G. Thompson. Three vessels ligated, ligatures cut short and wound united with catgut sutures. Chloroform was used as an anæsthetic, and we were twice compelled to stop its exhibition on account of respiration ceasing. After operation, bottles of hot water applied around the patient, he rallied slowly, and was well of the operation in about one month.

I resected the ends of the tibia and femur and now present them to the society for inspection.

You will notice several small cheesy masses on the surface of the bones, and also that the entire articular surface has been destroyed. These cheesy masses are tubercular, and from one or more of them an entrance was made into the joint. Secondary infection of the joint by the pus microbe followed, and the joint was thus destroyed.

He died about one year after the operation, from tuberculosis of the lungs. A few years ago these patients were all subjected to amputation or left to die a miserable, protracted death. It may be safely put down as a law that if only one lung is involved in the tubercular infection, resection is the remedy. If both lungs involved, amputation. By reason of antiseptic surgery, these patients get well after resections, whereas, formerly amputation was their only hope.

Primary infection of a joint with tuberculosis bacilli is a rare affection. The microbes are usually stopped in the epiphysis of the long bones, thence find their way into a joint, produce a peculiar inflammation characterized by granulation tissue, more or less effusion into the joint, the masses of granulations giving the old name, "fungus degeneration."

From a vast number of experiments with this granulation tissue it has been clearly demonstrated that it is tubercular in character. The bacilli of tuberculosis have invariably been found in them, and when the material has been inoculated on guinea pigs they have all died of tuberculosis. Again, this material inserted into proper localities has always produced the so-called scrofulous gland disease. Again, material from these enlarged glands introduced into a joint, or into the peritoneal cavity invariably produces a tubercular joint affection, or a general tuberculosis, thus demonstrating beyond the shadow of a doubt the identity of scrofula and tuberculosis. Again the bacillus of typhus has the same color reactions to aniline as that of tuberculosis, and when the microbe of lupus or lupus tissue is introduced into the peritoneal cavity of the guinea pig, tubercular peritonitis and general tuberculosis result, demonstrating that lupus is a tubercular skin disease.

GASTRO-ENTEROSTOMY FOR CANCER OF PYLORUS.

In July 1888, Geo. F. aged forty years, laborer and student, consulted me for what he called dyspepsia. He had been treated for indigestion for several years without much benefit. For a year or more he had had frequent attacks of vomiting after meals, the material being very acid. When I saw him he had been in bed for a week or ten days but complained of no pain. A few weeks prior to this time and for months before, he had suffered with great pain in the epigastric region. He was greatly emaciated, retaining his food for two or three hours only, when it was invariably vomited, the material frequently containing a "dark coffee ground" looking material. These symptoms together with slight tumor in the right of epigastric region led me to make the diagnosis of cancer of the pylorus.

I told the patient what my diagnosis was, and that death from starvation was a certainty in a few weeks. With pencil and paper I drew for him a diagram of

his stomach and the diseased portion and proposed resection of the pyloric end as holding out a slight hope. He declined to have anything done. For ten days I tried to sustain him with peptonized milk, though he took only a very small quantity, water being the only thing he could retain on his stomach. He had been starving for more than a month prior to consulting me. At the end of ten days he asked for, and urged me to attempt resection of the pylorus. Explaining to him both the resection and gastro-enterostomy, if the former could not be performed by reason of adhesions or the amount of tissue involved. He left me free to act as I thought proper when the stomach was reached.

With the assistance of Drs. J. H. Gaines and M. G. Thompson and J. H. Carpenter I proceeded to do the operation.

The room was prepared by being scrubbed with solution bichloride of mercury 1-1000 and the walls and ceiling washed with the same; the instruments boiled for one hour in a 3 per cent. solution of carbolic acid. Each of the assistants and myself were bathed in a solution of sublimate 1-5000, care being taken to bathe the head and whiskers, the latter wrapped in carbolized towels and clean operating gowns donned.

The patient was prepared for the operation by having a bath all over the day previous to the operation. At the time of operation the abdomen was shaved, scrubbed with soap and water then with bichloride solution 1-2000 this followed by the parts being washed in ether and again in boiled water. This being done the abdomen was opened in the linea alba from the umbilicus to the ensiform cartilage. All hemorrhage was checked with compression forceps before the peritoneum was opened. When this membrane was opened on the grooved director the lower edge of the liver, presented also a portion of the stomach. With a little traction the latter organ was brought into the opening when it was ascertained that the anterior wall was involved in the cancerous deposit for nearly if not quite half its extent, including the pylorus and a portion of the duodenum and a large extent of the smaller curvature. The great omentum had about one hundred or more small secondary deposits. So much of the stomach was involved that I decided to make gastro-enterostomy instead of pylorectomy.

Before opening the stomach and jejunum they were stitched together on what was to be the posterior part of the opening, a hole three-fourths of an inch made into both the stomach and jejunum and the parts united by continuous catgut sutures. During the operation, from time to time, patient required hypodermic injections of brandy and atropia by reason of great collapse. Time of the operation, one hour and fifty minutes, and he was so collapsed that all the details of the dressing were not carried out. Toilette of peritoneum was made, the abdomen stitched with interrupted suture of silk which had been previously boiled in three per cent. carbolic acid and before the operation dropped into a one to twenty solution of same.

Patient came out from the ether very weak. Hypodermic injections of brandy and atropia repeated. He was brought to bed and bottles of hot water placed around him, his head being lowered slightly. He talked some to his wife but died in a few hours.

Three hours after death a post-mortem was held, body very much emaciated. Opening the abdomen I removed the pyloric end of the stomach.

One of the greatest difficulties of the operation is the length of time required for

its performance. The patients being so weakened from loss of flesh and previous enforced fasting they can not stand the long anæsthesia required for so many stitches. Thanks to Dr. Senn, of Milwaukee, the operation may now be performed in fifteen to thirty minutes by the use of decalcified bone plates. When the opening in the stomach is made one of the plates is slipped into it and the organ transfixated with the threaded needle, the bowel treated the same way, four knots tied and the work is done. It has been my pleasure to be with Dr. Senn in some of his experimental work in intestinal surgery and to witness the simplicity and effectiveness of the bone plates. I would urge upon those who have not done so, to purchase "Senn's Intestinal Surgery."

REPORT OF CASES.

Case 1st.--Mrs. M., while driving with her daughter was thrown from the buggy into the middle of the road and received a large scalp wound extending from a point between the eyes to the juncture of the parietal and frontal sutures, thence curving downward over the temple to a line drawn from the lowest point of the wound on forehead to the centre of the left ear over the seam. The scalp was cut to the bone--peeled from the same throughout its entire length and breadth--the flap resting on the left cheek. The entire surface of wound was covered with fine sand and gravel from the road-bed, much of it being ground in and requiring an hour for its removal. When this was accomplished the scalp was shaved for some distance around the wound, the entire part washed with three per cent. solution carbolic acid after it, the scalp, had been bathed with soap and water. After this the flap was adjusted, fastened with adhesive plasters, a pad of antiseptic cotton applied--over all a well adjusted bandage. Under the flap a few threads of antiseptic silk were drawn to act as drainage tubes. She was now removed to her house. The dressing was not disturbed for a week, and when removed the wound was found healed without one drop of pus, and scarcely a line shows where the wound was.

Case 2nd.--I was called to attend a boy aged 14 years. Found him with a compound comminuted fracture of the head of the third metacarpal bone, from gun-shot wound. The ball entered on palm of hand, passing through and making its exit on back of wrist. There had not been very much hemorrhage. His hand was thoroughly scrubbed with soap and water, then with a solution of sublimate 1-1500, after this the wound was injected with solution of iodoform in ether, the hand wrapped in sublimated cotton and an aseptic bandage applied.

The wound healed under this one dressing without the presence of either pus or inflammation. It remained in place about three weeks.

Compound fractures, or compound comminuted fractures, have until recently been the dread of all surgeons, but under the modern antiseptic and aseptic manner of dressing them, they heal as kindly and readily as any other wounds, and without suppuration. It may be put down as a fact that there is no such thing as "laudable puss" about which we used to hear so much. There is no pus without the pus microbes, and if they get into a wound it is through the negligence or ignorance of the surgeon. When called to a wounded man we should not interfere

in any manner whatever with the wound until we are prepared to do it aseptically. If patient is suffering from collapse, administer to that symptom, get him to his home and go deliberately to work to render the patient, his wound, the person and hand of the surgeon aseptic. If it is a compound fracture never attempt to reduce the fracture until the patient is ready for the permanent dressing. After his conveyance to his home then thoroughly scrub the parts about the wound with an antiseptic solution, either of a three per cent. solution of carbolic acid or a 1-1500 of corrosive sublimate. If it is a compound fracture the ends of the bone should be well washed with it, before reduction is attempted. I emphasize these antiseptic precautions to which I attribute the success of modern surgeons, because I have recently seen or known of men who pretended to considerable surgical skill, operate without much preparation. I have seen a surgeon while engaged in a dangerous operation scratch his arms and then go ahead with his work. Is it any wonder such an operator has pus in his wounds? Again I have seen an assistant who was presumably well drilled, and who had cleaned up thoroughly, put the needles into his mouth and then use them on the wound. To those of us who know that the mouth of the ordinarily healthy man contains twenty or more different varieties of microbes and among the number, the staphylococcus aurius and albus, it is no wonder that an operator does not always succeed when he has such an assistant. Another surgeon I have known to get ready to syringe out a uterus, supposed to contain retained menstrual blood, by putting his syringe, taken I suppose from the dusty and dirty drawer in his office, on the soiled carpet of an ordinary hotel room. Such practice is criminal in its negligence or ignorance. Another surgeon prepares for an amputation by placing his saw on the floor by his side, presumably for convenience. Another covers the table on which are his instruments, with the ordinary newspaper, possibly it had been lying in anything but a clean office for weeks. Other surgeons I have seen use an old dusty, velvet lined tray as an instrument tray, the bottom of the tray covered with a slip of newspaper, during some operation. I noticed an assistant with a soiled looking sponge with which he was endeavoring to remove some blood from a facial wound. The patient vomited, the assistant's sponge rested on the vomit-soiled face and was from time to time pressed into the wound. And yet such operators cry out against antisepsis in surgery. Another surgeon will blow his nose on a soiled handkerchief, put this back in his soiled and dusty pocket and then proceed with his operation as though the catarrhal secretions from his nose did not contain thousands of pus microbes, either the staphylococcus aurius, or *S. albus*, or the streptococcus pyogene. Of course, the hands become soiled by such proceedings and should never be allowed to touch a wound surface until they have been thoroughly cleaned. Neither should an operator allow his hands to scratch his head or beard or touch or handle a chair or any article of furniture in the room, or even his own or the patient's clothing. If he does he is not aseptic.

ARTHROTONY OF KNEE JOINT FOR FLOATING BODY AND
SYNOVITIS.

I was asked by Dr. M. G. Thompson to see Mrs. B. She was a large, fleshy woman, about forty years old; has complained of pain and swelling in the knee joint for some years. When walking the streets would be suddenly attacked with the pain and be as suddenly relieved of it. She has been treated for years for rheumatism of the joint. Upon examination, I found a swollen, tender joint, with fluctuation and enlargement of the quadricep bursæ. Upon careful handling of the joint, I detected a loose substance on the exterior of the joint at the point where the condyles of the femur and tibia come together. This was soon lost to be again found after some manipulation. I diagnosed loose cartilage and advised arthrotomy for it. Patient consented, and on the 7th day of April, with Drs. Barry and Thompson assisting me, I operated on the case. My hands and arms were thoroughly scrubbed with a brush, and sublimate solution 1-1000, special care being used to render the under surface of the finger nails clean with the pen-knife, and then soaking them for two or three minutes in alcohol. Then they were well scrubbed with Bichloride 1-1000 for five to ten minutes. All the knives, forceps, safety pins and needles were passed through the flame of an alcohol blow-pipe or lamp and then dropped into a 5 per cent. sol. carbolic acid where they remained until needed. Cat gut sutures were used, prepared after the manner of Kocher. They were also dropped into the carbolic acid solution. The patient having previously had a bath, she was moved into a room from which the carpet had been taken up, and the floor of which had been well scrubbed with a 1-1000 solution of Bichloride of mercury. Her right leg was then well shaved from midway the leg to midway the thigh, washed with sulphuric ether to remove the fatty matters of the skin, then washed with soap and water, the scrubbing brush being freely used. After this, the leg was scrubbed with Bichloride, 1-1000, the feet of both legs and the bed were covered up in towels wrung out of Bichloride solution. She was anæsthetized with chloroform and the joint opened, on what we thought was the loose cartilage, but when we got into the joint it had again disappeared. I then passed my index finger into the joint and searched all its recesses, but the one behind the femur, and failed to find the substance we had operated for, but in the joint were several tufts of floating fringes, we might call them. After a diligent search, I withdrew my finger and turned my head away to look for some instruments, and Dr. Thompson said it came out with a gush of synovial fluid. A small drainage tube was then inserted so that its inner end just penetrated the capsule of the joint. The latter was united by a continuous suture of cat gut. Then the fascia was also united and finally the skin, but I forgot to put a safety pin through the drainage tube. The knee was now wrapped up in absorbent gauze which had been boiled for one hour, and then boiled for another hour in Bichloride of mercury, 1-1000. Over this gauze, several layers of absorbent cotton, dry, were wrapped, and over the cotton a bandage of sublimated gauze and over that a sheet of rubber tissue was placed, and the whole leg then incased in a plaster of paris bandage. Let me say, that before the wound was closed, I irrigated the knee joint with 5 per cent. solution of carbolic acid, and then again with Bichloride solution 1-2000.

Patient came out from under the chloroform very nicely indeed. During the afternoon next day she had a slight elevation of temperature, I believe as high as 100, but after the second day her temperature and pulse remained normal. Wound was dressed on the seventh day under the same antiseptic precautions as had characterized the operation. The drainage tube was found somewhat buried in the tissues, but by opening the wound it was extracted without difficulty. April 17th the knee was redressed by Dr. M. G. Thompson and found healed with exception of a small granulating surface. Motion in the joint good and painless, swelling all subsided and patient expresses herself as feeling well. This last dressing was made without the plaster paris covering, and was retained in place for one week or ten days when she was allowed to get up and go around the house.

May 4th, 1889, when last heard from, the patient was at her home, in Indiana, very well indeed.